

We Claim:

1. A method of detecting the presence of a target PS112 polynucleotide  
5 in a test sample, comprising:
  - (a) contacting said test sample with at least one PS112-specific polynucleotide or complement thereof; and
  - (b) detecting the presence of said target PS112 polynucleotide in the test sample, wherein said PS112-specific polynucleotide has at least 50% identity to a  
10 polynucleotide selected from the group consisting of SEQUENCE ID NOS 1-10, and fragments or complements thereof.
2. The method of claim 1, wherein said target PS112 polynucleotide is attached to a solid phase prior to performing step (a).  
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3. A method for detecting mRNA of PS112 in a test sample, comprising:
  - (a) performing reverse transcription with at least one primer in order to produce cDNA;
  - 20 (b) amplifying the cDNA obtained from step (a) using PS112 oligonucleotides as sense and antisense primers to obtain PS112 amplicon; and
  - (c) detecting the presence of said PS112 amplicon in the test sample, wherein the PS112 oligonucleotides utilized in steps (a) and (b) have at least 50% identity to a sequence selected from the group consisting of SEQUENCE ID NOS 1-  
25 10, and fragments or complements thereof.
4. The method of claim 3, wherein said test sample is reacted with a solid phase prior to performing one of steps (a), (b), or (c).
- 30 5. The method of claim 3, wherein said detection step comprises utilizing a detectable label capable of generating a measurable signal.
6. A method of detecting a target PS112 polynucleotide in a test sample suspected of containing said target, comprising:

(a) contacting said test sample with at least one PS112 oligonucleotide as a sense primer and with at least one PS112 oligonucleotide as an anti-sense primer and amplifying to obtain a first stage reaction product;

5 (b) contacting said first stage reaction product with at least one other PS112 oligonucleotide to obtain a second stage reaction product, with the proviso that the other PS112 oligonucleotide is located 3' to the PS112 oligonucleotides utilized in step (a) and is complementary to said first stage reaction product; and

10 (c) detecting said second stage reaction product as an indication of the presence of the target PS112 polynucleotide, wherein the PS112 oligonucleotides utilized in steps (a) and (b) have at least 50% identity to a sequence selected from the group consisting of SEQUENCE ID NOS 1-10, and fragments or complements thereof.

15 7. The method of claim 6, wherein said test sample is reacted with a solid phase prior to performing one of steps (a), (b), or (c).

8. The method of claim 6, wherein said detection step comprises utilizing a detectable label capable of generating a measurable signal.

20 9. The method of claim 8, wherein said detectable label is reacted to a solid phase.

25 10. A test kit useful for detecting PS112 polynucleotide in a test sample, comprising a container containing at least one PS112 polynucleotide having at least 50% identity to a sequence selected from the group consisting of SEQUENCE ID NOS 1-10, and fragments or complements thereof.

30 11. A purified polynucleotide or fragment thereof derived from a PS112 gene, wherein said polynucleotide is capable of selectively hybridizing to the nucleic acid of said PS112 gene and has at least 50% identity with a polynucleotide selected from the group consisting of SEQUENCE ID NOS 2-10, and complements thereof, or at least 50% identity with fragments of a polynucleotide selected from the group consisting of SEQUENCE ID NOS 4-7, and SEQUENCE ID NO 8.

35 12. The purified polynucleotide of claim 11, wherein said polynucleotide is produced by recombinant techniques.

13. The purified polynucleotide of claim 11, wherein said polynucleotide is produced by synthetic techniques.

5 14. The purified polynucleotide of claim 11, wherein said polynucleotide comprises a sequence encoding at least one PS112 epitope.

10 15. A recombinant expression system comprising a nucleic acid sequence that includes an open reading frame derived from PS112 operably linked to a control sequence compatible with a desired host, wherein said nucleic acid sequence has at least 50% identity to a sequence selected from the group consisting of SEQUENCE ID NOS 1-10, and fragments or complements thereof.

15 16. A cell transfected with the recombinant expression system of claim 15.

17. A cell transfected with a nucleic acid sequence encoding at least one PS112 epitope, wherein said nucleic acid sequence is selected from the group consisting of SEQUENCE ID NOS 1-10, and fragments or complements thereof.

20 18. A composition of matter comprising a PS112 polynucleotide or fragment thereof, wherein said polynucleotide has at least 50% identity with a polynucleotide selected from the group consisting of SEQUENCE ID NOS 2-10, and complements thereof, or at least 50% identity with fragments of a polynucleotide selected from the group consisting of SEQUENCE ID NOS 4-7, and SEQUENCE  
25 ID NO 8.

19. The test kit of claim 10 further comprising a container with tools useful for collection of said sample, wherein the tools are selected from the group consisting of lancets, absorbent paper, cloth, swabs and cups.

30 20. A gene or fragment thereof comprising DNA having at least 50% identity with SEQUENCE ID NO 9 or SEQUENCE ID NO 10.